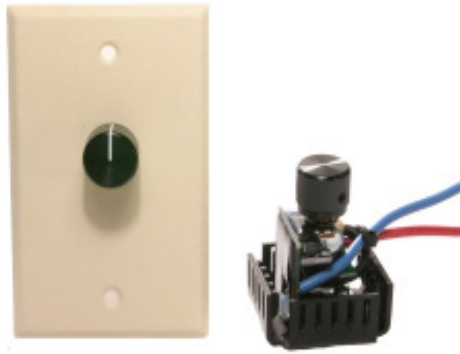


# Two-Wire DC Dimmer

## Dims and Switches Incandescent Lighting



### Why settle for "just a toggle switch"?

**V**ersatility, easy installation, energy savings, affordable price -- you get it all with the ZANE, Two-Wire DC Dimmer for incandescent lighting. Used as original equipment by over 25 OEM manufacturers.

In addition the "just plain" on/off of a toggle switch, this DC Dimmer adds an important dimming function as well allowing you to match illumination level to use: Bright full spectrum for activities, medium for relaxing and entertaining, extra low for use as a night light. You can even direct just the right amount of light onto a task area to speed work, then low for variable background illumination.

And with 98 percent efficiency over the entire dimming range, power usage is significantly reduced as well. Soft start/end extend the life of expensive bulbs.

This Dimmer installs into a standard 1-gang outlet box in about 5 minutes with only two electrical connections (see Wiring Diagram, right) Often troublesome ground wiring is completely bypassed to simplify wiring in a new installation, or directly replace an existing toggle switch in a retrofit. Construction is of quality materials to exacting specifications for performance and reliability you can count on:

- \* Dual, heavy aluminum heat sinks and 100 percent soldered connections promote long life and high reliability

- \* Machined metal knob adds distinction and durability to the installation. Rotary action is crisp and exacting, while a tactile off position reduces power draw to zero when inactive

- \* Double filtering essentially eliminates radio interference

- \* Premium UL 105 C color-coded wiring is tagged with electrical specifications for quick and error-free identification.

- \* Step-by-step, detailed instructions make installation a snap. Color-coordinated mounting screw are included

- \* Current rating is your choice of 4, 8, 9.5 or 11A. Both 12V and 24V versions are available (see table, reverse side)

- \* The standard switch plate is metal (ivory only), while a plastic switch plate (ivory, white, dark brown) is available as a no-cost option. A resealable clamshell package for counter sales and a stainless steel switch plate are available at nominal extra cost.

### Features

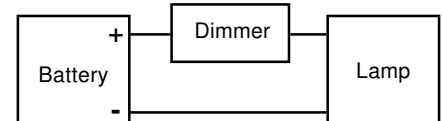
- Adds important dimming function to "just plain" on/off
- Energy efficient. Attractive design
- Soft start/end extend bulb life
- Quality machined metal knob. Tactile on/off
- Installs with only two electrical connections -- about five minutes
- Easy retrofit: Directly replaces a conventional toggle switch
- Rugged, reliable, nil radio interference, low cost

### Applications

- Match illumination level to use: Bright, full spectrum for activities, medium for relaxing and entertaining, extra low for use as a night light
- Turn up a high-output task light located over a counter or sink to speed work, then down for background illumination
- Adjust an overhead or spot fixture bright for reading, then down as a night light

Pat Pend  
Made in USA

### Wiring Diagram



# Technical Specifications

## Mode of Operation

Continuously variable pulse width modulation. Loop powered to eliminate ground wire

## Supply Voltage

12V Version: 7 to 17 vdc working, up to 24 vdc momentary.

24V Version: 19 to 30 vdc working, up to 42 vdc momentary  
Battery or filtered dc only. Fuse or breaker in electrical box

## Installation Method

Installs directly into standard 1-gang outlet box

## Output Voltage Range

From zero vdc to supply voltage minus about 1 volt

## Continuous Output Current

Full rated current up to 105 F (40 C) ambient, 75% of rated current up to 115 F (46 C)

## Ambient Temperature Range

- 40 F (- 40 C) to 115 F (46 C)  
(with restrictions noted)

## DC-DC Conversion Efficiency

About 98% over entire dimming range

## Reverse Polarity Protection

Can be reverse connected without damage (lamp will remain fully ON and without knob control)

## Transient Protection

Double resistive/capacitive filtering, zener diode clamping

## Size

4A unit is about 1.2" (29 mm) square. Other units about 1.8" (47 mm) square maximum

## Weight

From 3 to about 5 oz (84 to 140 gm) depending on version and options

## Load Types

Resistive loads (incandescent bulbs, heating elements, etc) only. Not suitable for LED lighting

## Line Regulation

Directly proportional to supply voltage

## Load Regulation

Generally less than 3% from minimum load to maximum load at any setting

## Voltage Drift

Nil with steady input voltage

## Dissipation of Drive Circuitry

Less than 0.038W. No-load current draw ("on" but at minimum setting) is about 1mA (0.001A).

## Service Life of on/off Switch

About 50,000 cycles

## Heat Sinks

Dual heat sinks are electrically isolated from voltage and act as a protective circuit enclosure. Maximum temperature rise under full load is about 40 F (22 C) above ambient

## Accessories Included

Switch plate mounting screws, tagged leads, and detailed installation instructions

## Safety and Fire Approval

Conforms with ANSI-12V Standards

## Warranty and Disclaimer:

Although Manufacturer warrants the goods, so far as the same are of its manufacturer, against defects in materials and workmanship under normal use and service for which they were designed for a period of 90 days after invoice date, Manufacturer's obligation under this warranty are limited, at its option, to the replacement of the part or parts determined to be defective or to the refund of the purchase price.

Claims made in this data sheet are based on extensive testing and are believed to be true. Manufacturer shall under no circumstances be liable for any special, indirect, incidental, or consequential damages owing to failure of the goods. Manufacturer makes no warranty of fitness for a particular purpose or merchantability or any other warranty, oral or written, expressed or implied, except as specifically set forth herein.

Do not use ZANE products as critical components in life support devices or systems, aircraft, or other hazardous applications. Quotation, order acknowledgment, purchase, etc. does not grant or imply a license under any present or future patents owned by seller except to extent purchases are made from seller.

Any goods returned under warranty must be returned freight prepaid to ZANE International Inc., Minden, NV.

### Two-Wire DC Dimmer for Outlet Box Installation

Part #	UPC Number	Input Voltage	Maximum Current
AD2-34L-12V	02000	12V	4A
AD2-34L-24V	02100	24V	4A
AD2-44L-12V	02200	12V	8A
AD2-44L-24V	02300	24V	8A
AD2-48L-12V	02400	12V	9.5A
AD2-48L-24V	02500	24V	9.5A
AD2-54L-12V	02600	12V	11A
AD2-54L-24V	02700	24V	11A